

Fig. 1

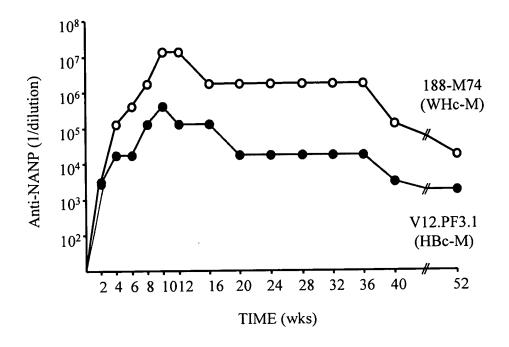


Fig. 2

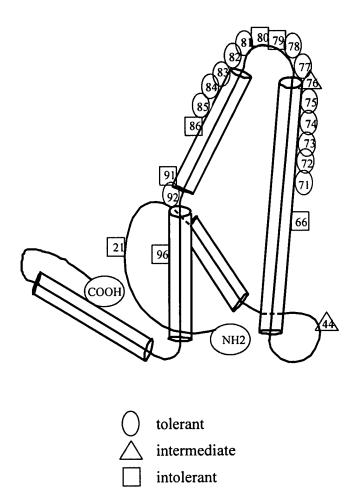


Fig. 3

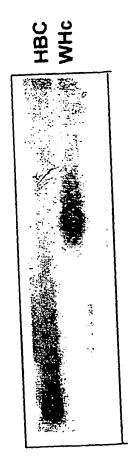


Fig. 4

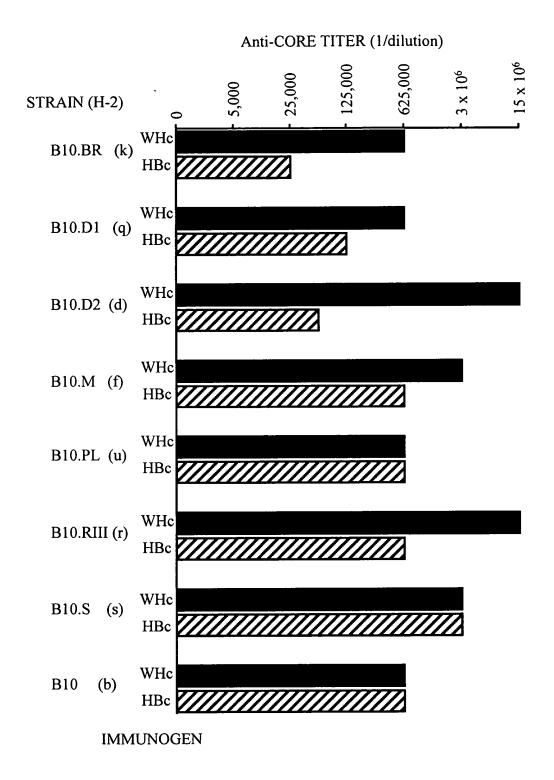


Fig. 5

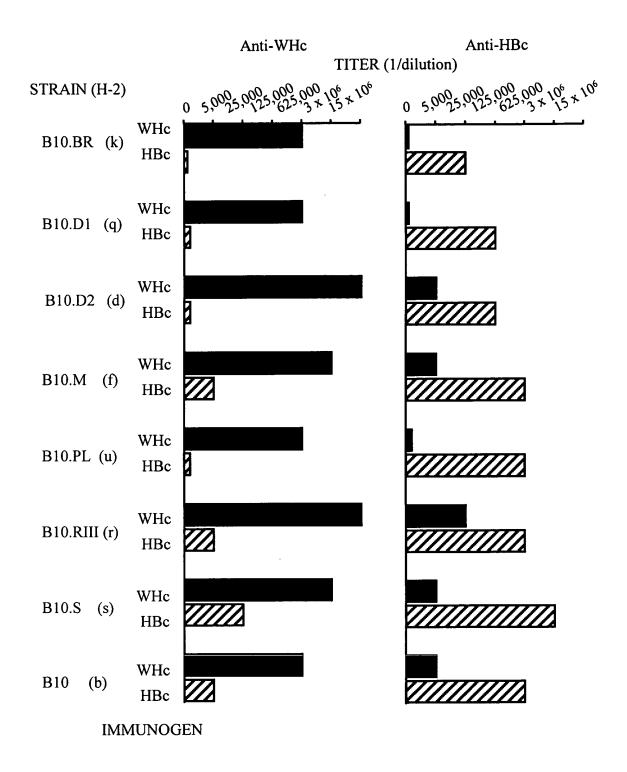
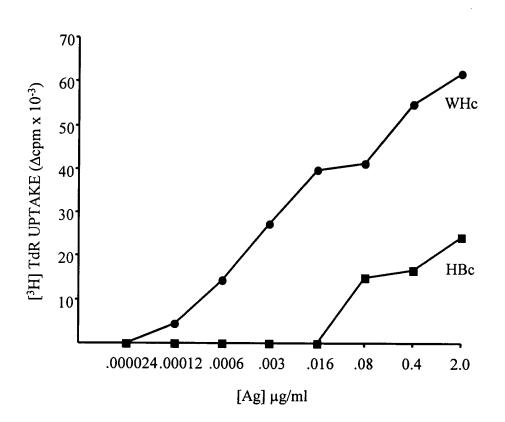


Fig. 6



**Fig.** 7

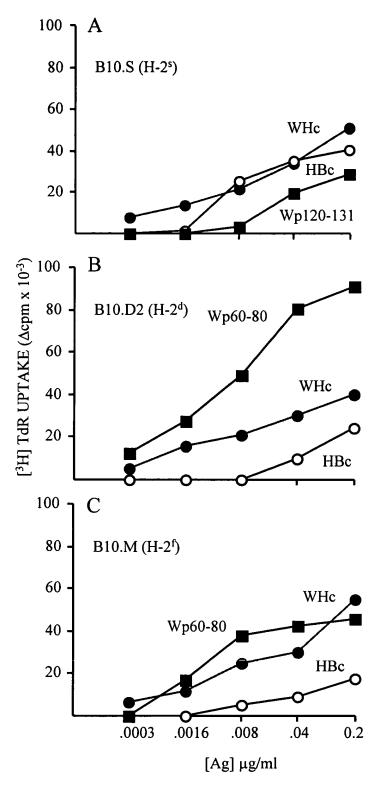
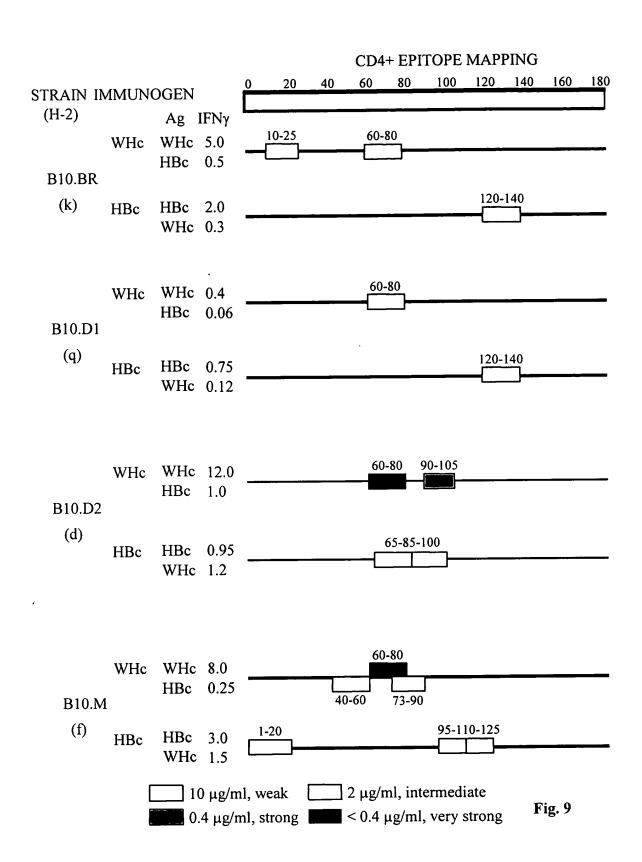
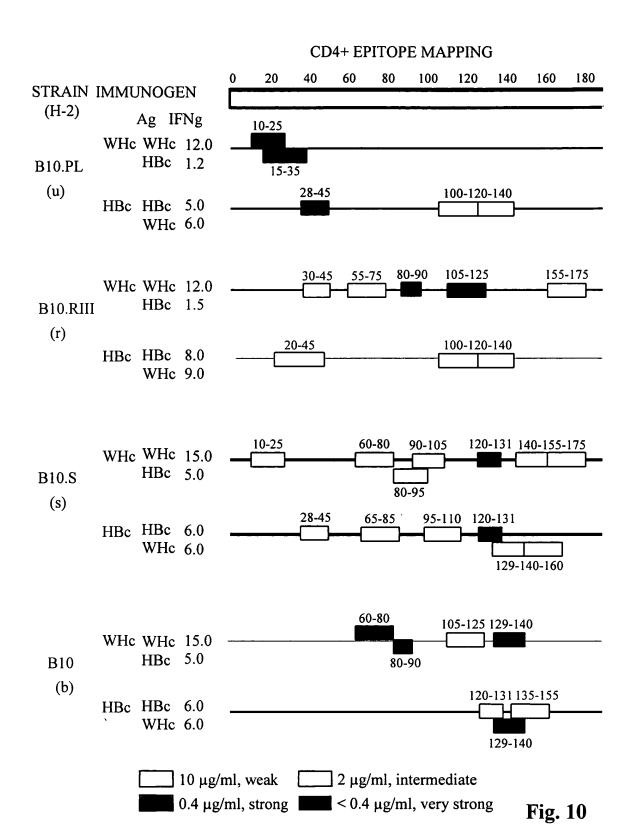


Fig. 8





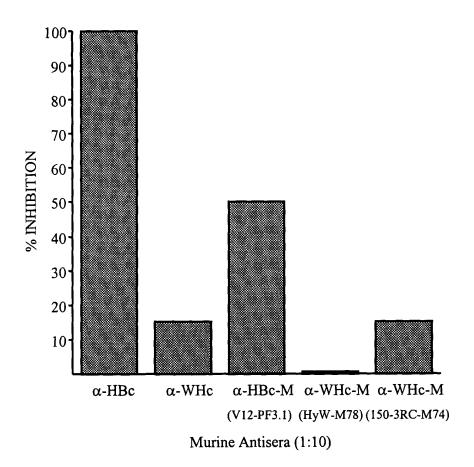


Fig. 11

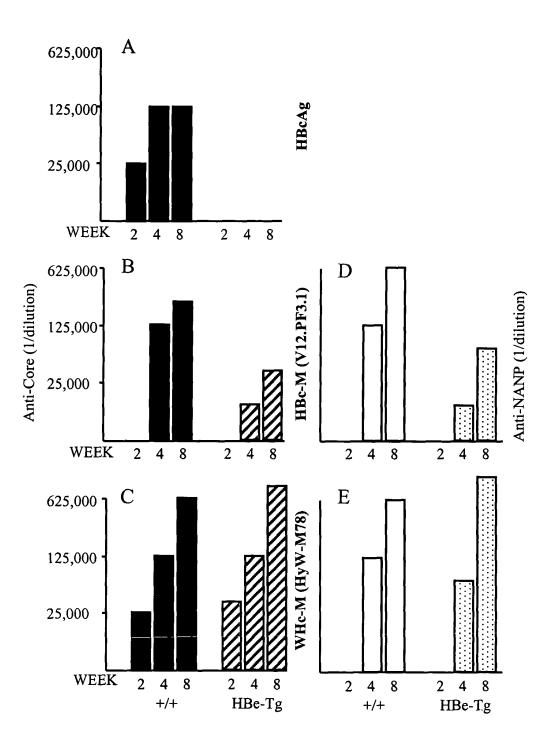


Fig. 12

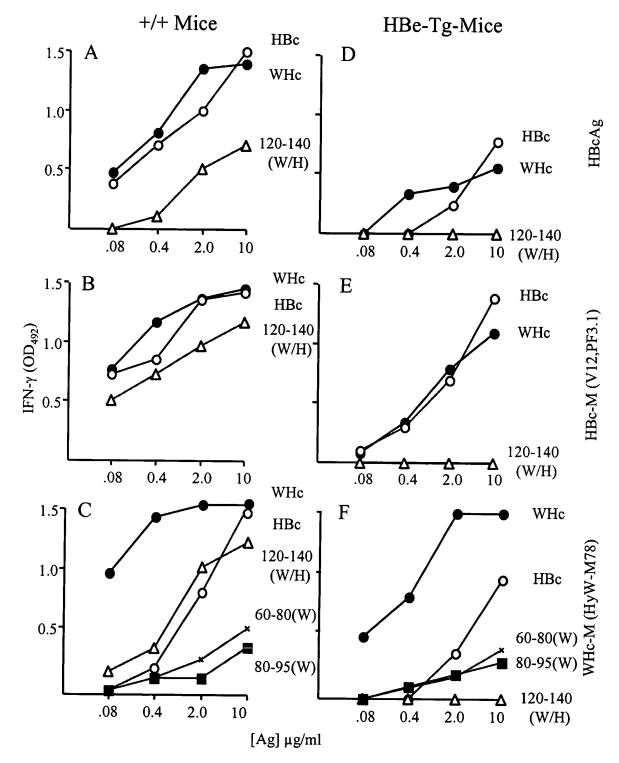
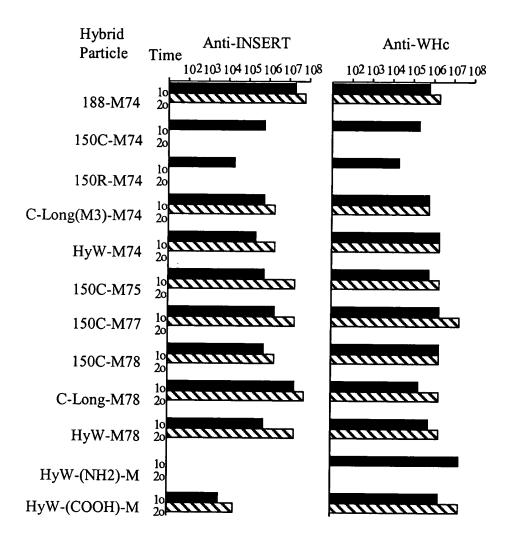
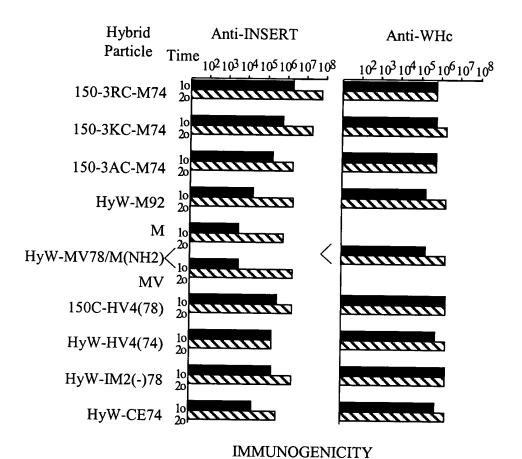


Fig. 13



**IMMUNOGENICITY** 



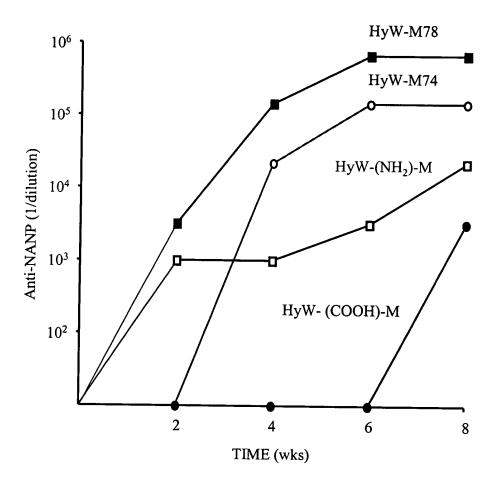


Fig. 16

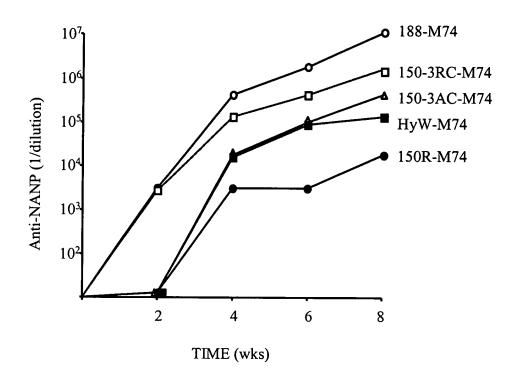
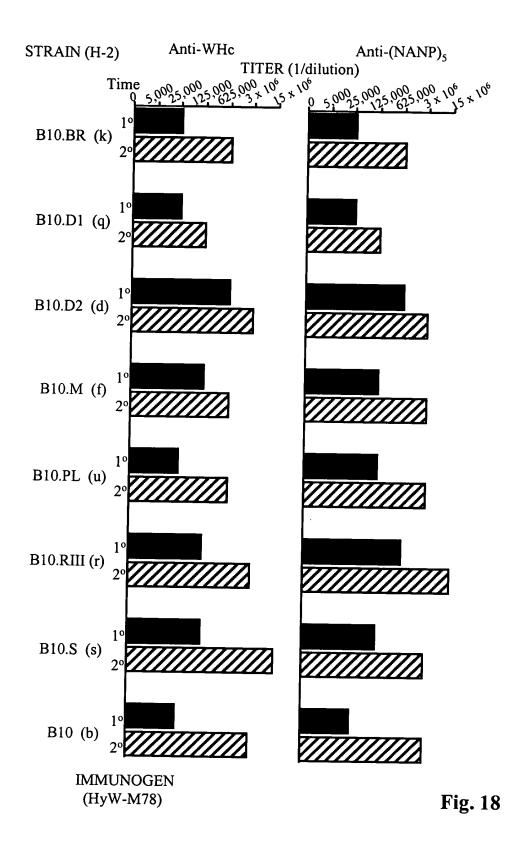
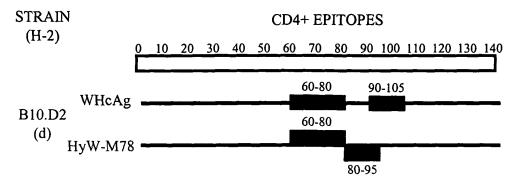
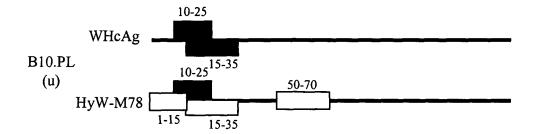


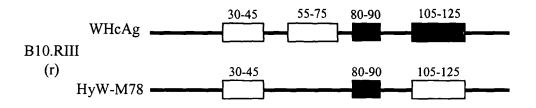
Fig. 17

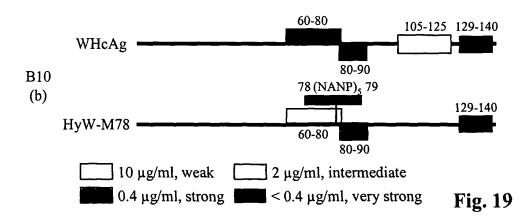












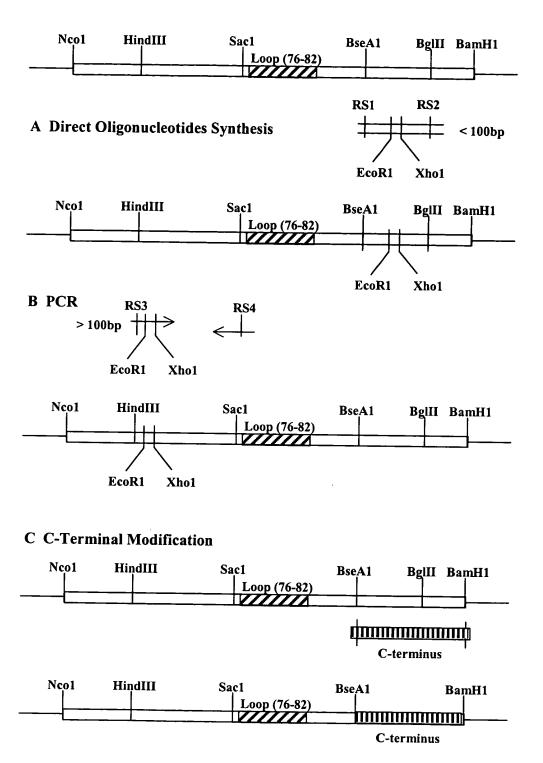


Fig. 20

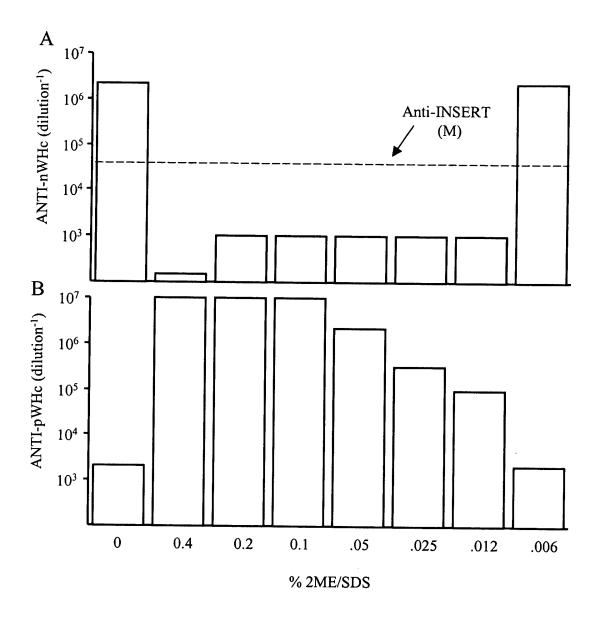


Fig. 21

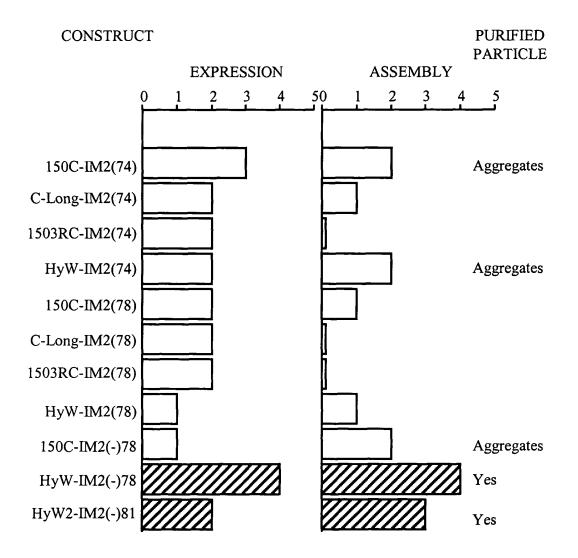


Fig. 22

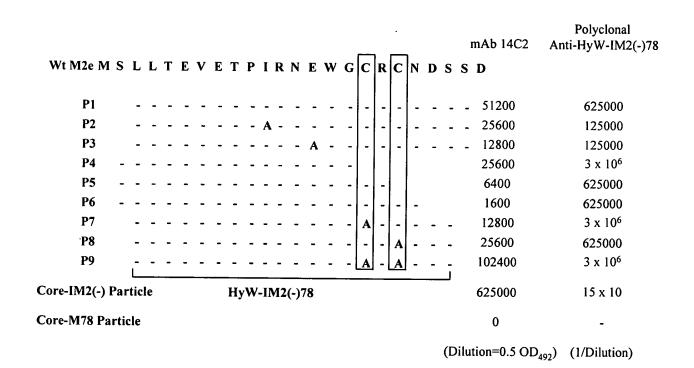


Fig. 23

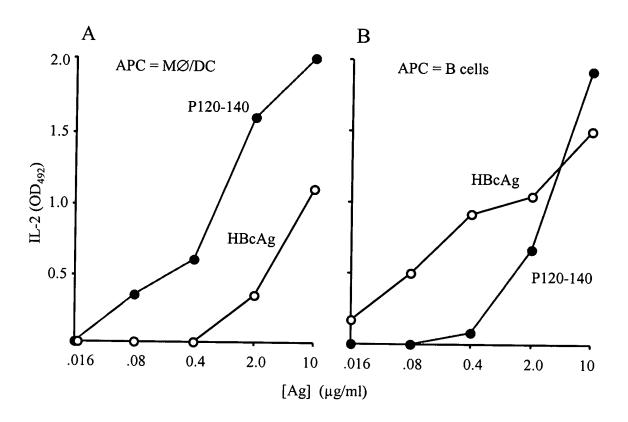
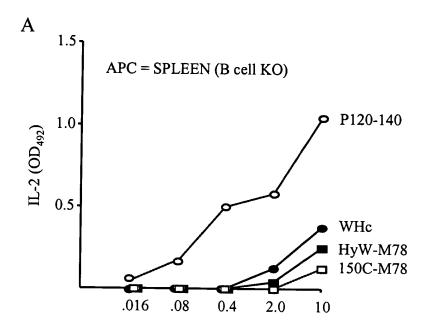


Fig. 24



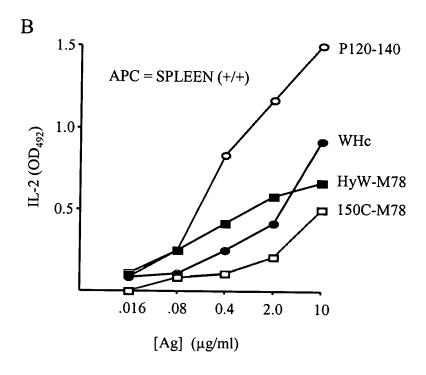


Fig. 25

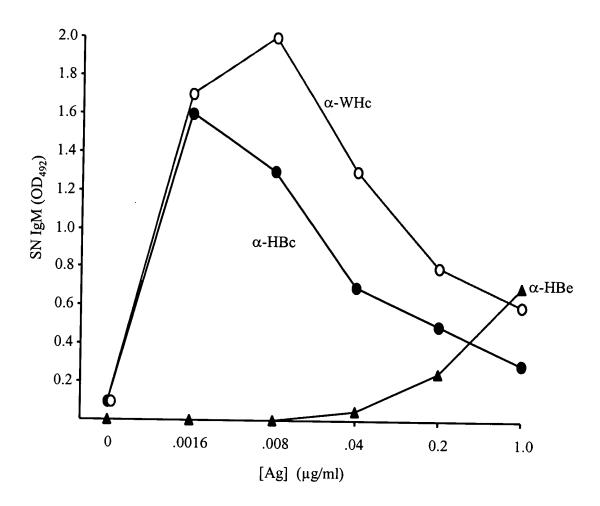


Fig. 26

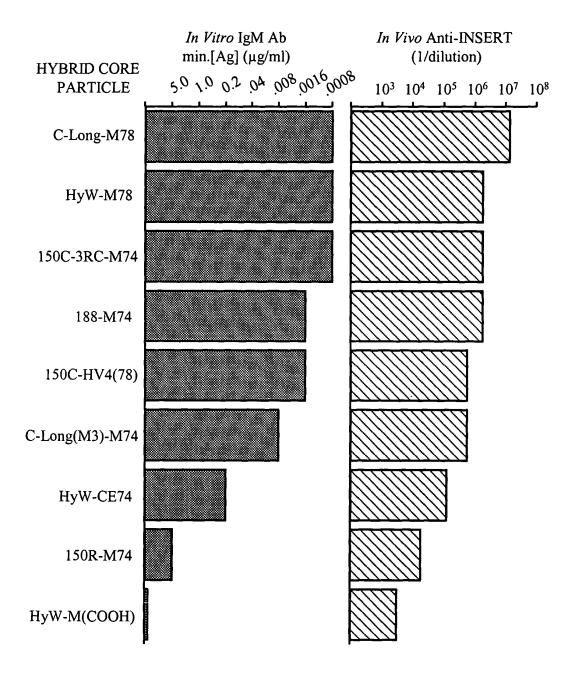


Fig. 27

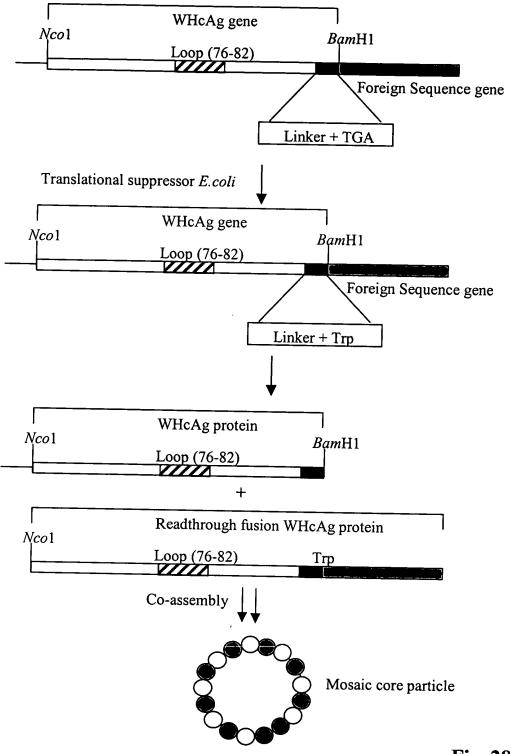


Fig. 28

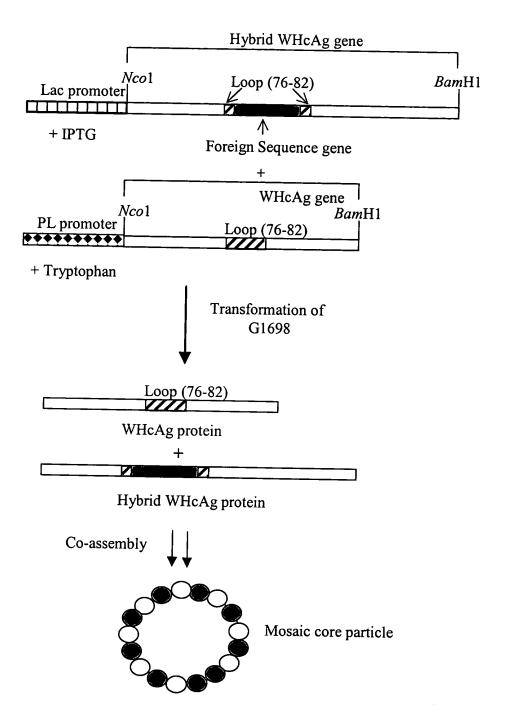
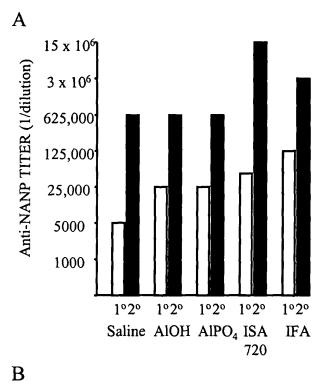


Fig. 29



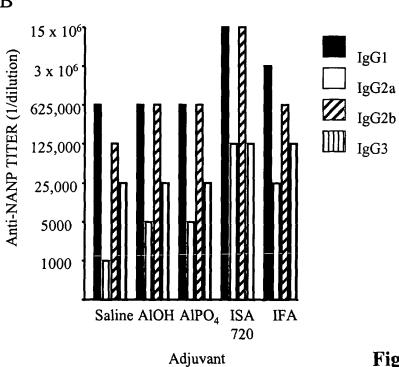


Fig. 30

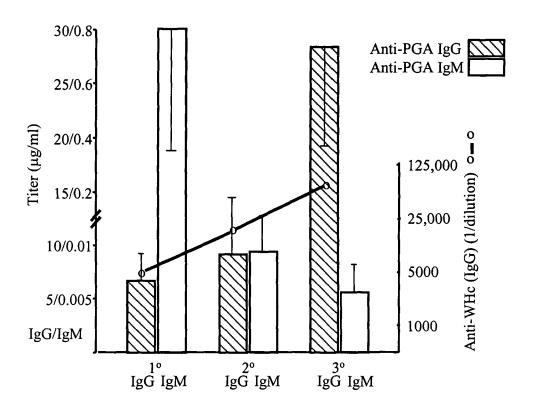


Fig. 31

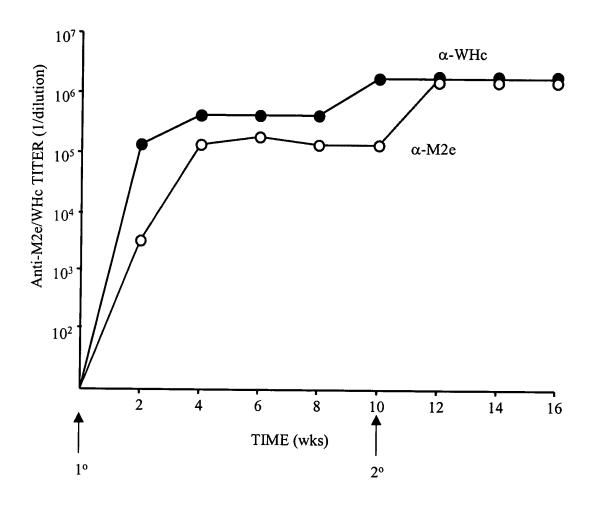


Fig. 32

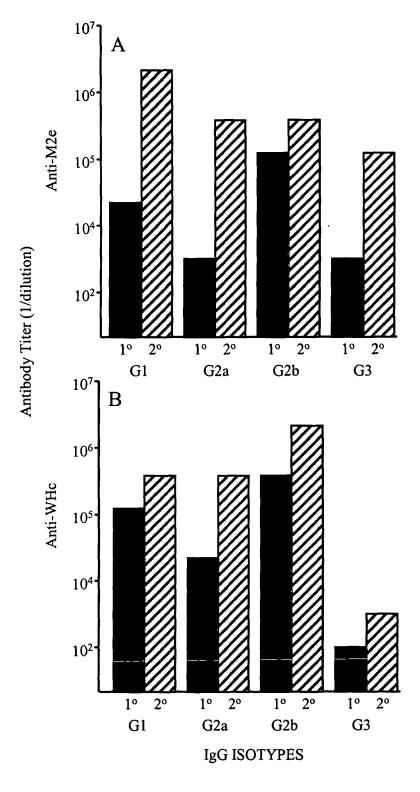


Fig. 33

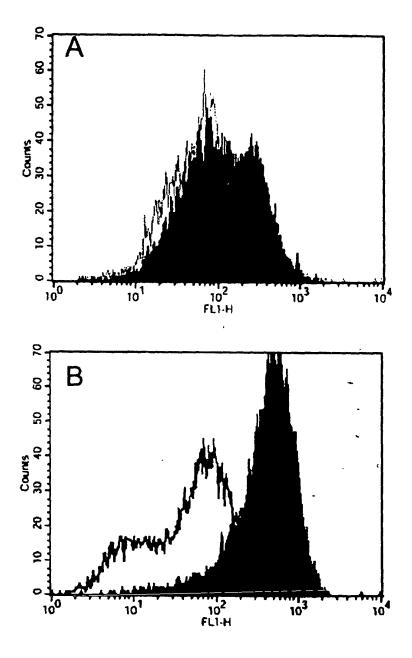


Fig. 34

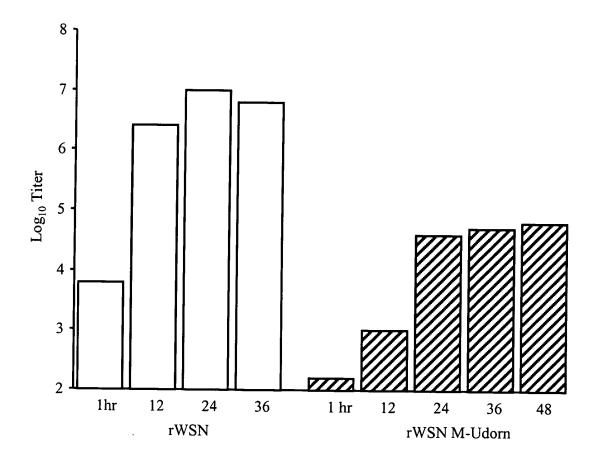


Fig. 35

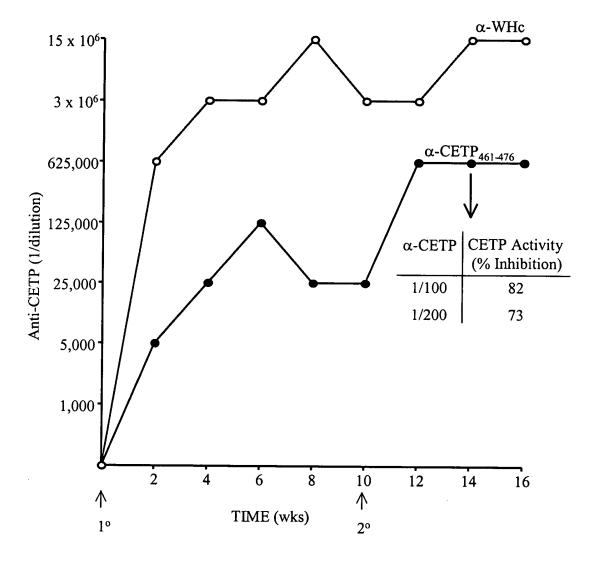


Fig. 36



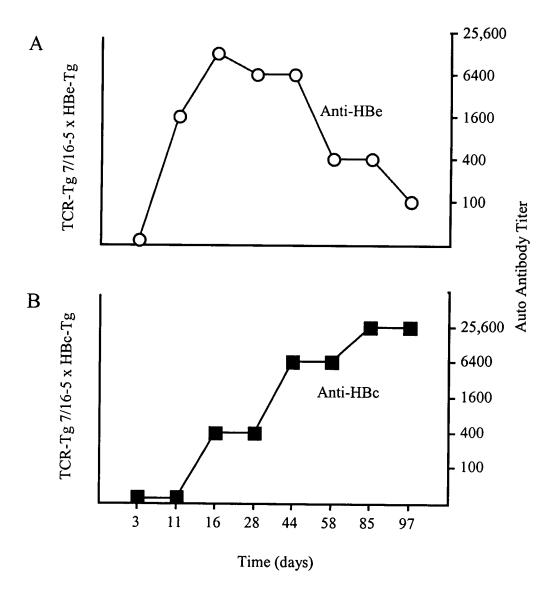


Fig. 37

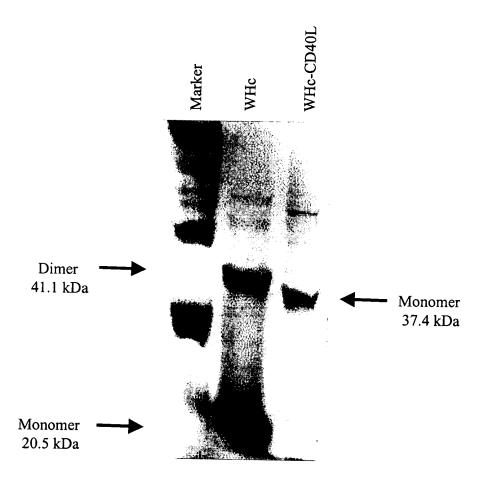


Fig. 38

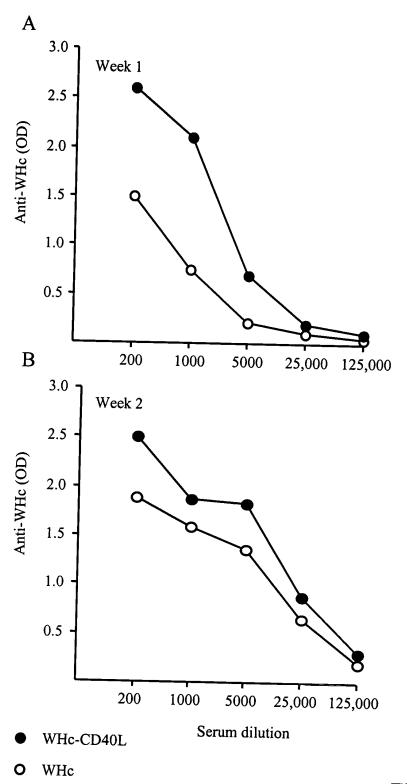


Fig. 39

### A Wild Type WHcAq DNA (SEQ ID NO:37)

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TTTGGACTTCTTTCCTGACCTTAATGCTTTGGTGGACACTGCTACTGCCTTGTATGAAG
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ACAAGTAAGAACAATCATTGTAAATCATGTCAATGATACCTGGGGACTTAAGGTGAGAC
AAAGTTTATGGTTTCATTTTGTCATGTCTCACTTTCGGACAACATACAGTTCAAGAATTT
TTAGTAAGTTTTGGAGTATGGATCAGGACTCCAGCTCCATATAGACCTCCTAATGCACC
CATTCTCTCGACTCTTCCGGAACATACAGTCATTAGGAGAAGAGGGGGGCAAGAGCTT
CTAGGTCCCCCAGAAGACGCACTCCCTCTCCTCGCAGGAGAAGATCTCAATCACCGCGT
CGCAGACGCTCTCAATCTCCATCTGCCAACTGCTGA

### B Wild Type WHcAg (SEQ ID NO:1)

MDIDPYKEFGSSYQLLNFLPLDFFPDLNALVDTATALYEEELTGREHCSPHHTAIRQAL VCWDELTKLIAWMSSNITSEQVRTIIVNHVNDTWGLKVRQSLWFHLSCLTFGQHTVQEF LVSFGVWIRTPAPYRPPNAPILSTLPEHTVIRRRGGARASRSPRRRTPSPRRRRSQSPR RRRSQSPSANC

#### C Truncated WHcAg (SEQ ID NO:38)

MDIDPYKEFGSSYQLLNFLPLDFFPDLNALVDTATALYEEELTGREHCSPHHTAIRQAL VCWDELTKLIAWMSSNITSEQVRTIIVNHVNDTWGLKVRQSLWFHLSCLTFGQHTVQEF LVSFGVWIRTPAPYRPPNAPILSTLPEHTVI

#### A Wild Type GSHcAq DNA (SEO ID NO:39)

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GTGTGTTGGGAAGAATTAACTAGATTAATTACATGGATGAGTGAAAATACAACAGAAGA
AGTTAGAAGAATTATTGTTGATCATGTCAATAATACTTGGGGACTTAAAGTAAGACAGA
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GGTCCCCCCGAAGACGCACTCCCTCTCCTCGCAGGAGAAGGTCTCAATCACCGCGTCGC
AGACGCTCTCAATCTCCAGCTTCCAACTGCTGA

## B Wild Type GSHcAg (SEQ ID NO:21)

MDIDPYKEFGSSYQLLNFLPLDFFPDLNALVDTAAALYEEELTGREHCSPHHTAIRQAL VCWEELTRLITWMSENTTEEVRRIIVDHVNNTWGLKVRQTLWFHLSCLTFGQHTVQEFL VSFGVWIRTPAPYRPPNAPILSTLPEHTVIRRRGGSRAARSPRRRTPSPRRRRSQSPRR RRSQSPASNC

## C Truncated GSHcAg (SEQ ID NO:40)

MDIDPYKEFGSSYQLLNFLPLDFFPDLNALVDTAAALYEEELTGREHCSPHHTAIRQAL VCWEELTRLITWMSENTTEEVRRIIVDHVNNTWGLKVRQTLWFHLSCLTFGQHTVQEFL VSFGVWIRTPAPYRPPNAPILSTLPEHTVI

### A Wild Type HBcAg DNA (SEQ ID NO:57)

## B Wild Type HBcAg (SEQ ID NO:41)

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# C Truncated HBcAg (SEQ ID NO:58)

MDIDPYKEFGATVELLSFLPSDFFPSVRDLLDTASALYREALESPEHCSPHHTALRQAI LCWGELMTLATWVGVNLEDPASRDLVVSYVNTNMGLKFRQLLWFHISCLTFGRETVIEY LVSFGVWIRTPPAYRPPNAPILSTLPETTVV